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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/829,204	04/22/2004	David Jon Haan	35678-604C01US	5533
36623 7590 02/18/2009 MINTZ, LEVIN, COHN, FERRIS, GLOVSKY AND POPEO, P.C. ONE FINANCIAL CENTER BOSTON, MA 02111				
EXAMINER SHAY, DAVID M				
ART UNIT		PAPER NUMBER		
3769				
MAIL DATE		DELIVERY MODE		
02/18/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

## Application No.

10/829,204

## Applicant(s)

HAAN ET AL.

## Examiner

david shay

## Art Unit

3769

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on November 24, 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-12, 15-30, 33-43 and 46-51 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12, 15-30, 33-43 and 46-51 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 24, 2008 has been entered.

Applicant argues that because 35 U.S.C. 113 states that a drawing is only required when it is necessary for an understanding of the invention, thus refuses to remedy the examiner's drawing objections. However, as clearly stated in MPEP 608.02(IV) a requirement for drawings under 37 C.F.R. 1.83(a) is entirely consonant with the requirements of 35 U.S.C. 113. Thus applicant's arguments are not convincing.

With regard to the art rejections, applicant argues that as the instant claims require passing the radiation through a "graded index optical fiber, the graded index optical fiber having a graded index core profile and length selected to modify the electromagnetic radiation to a modified electromagnetic radiation having an intensity distribution including one of a substantially Gaussian intensity distribution, a substantially bell curve shaped intensity distribution,..." and thus distinguish over Kittrell et al. Apparently applicant believes that since one of ordinary skill in the art, when forming the device according to the teachings of Kittrell et al, is not thinking of producing a fiber that will output an e.g. Gaussian intensity distribution, the method cannot read on the claims, regardless of whether or not a Gaussian intensity distribution is produced by the fiber when radiation is passed therethrough. The examiner must respectfully disagree. As all the claimed steps of applicant are performed by one of ordinary skill in the art when constructing and employing the device according to the teachings of Kittrell et al, the

method reads on the claims, regardless of the thoughts entertained by one of ordinary skill in the art while constructing the device or performing the method. Thus, since according to the originally filed disclosure, in the last sentences of paragraph [0019], a substantially Gaussian intensity is produced “provided that the length of the GRIN fiber 100 is above a certain threshold” and since according to paragraph [0032] of the originally filed disclosure, “the GRIN fiber 212 has a length of at least 20 centimeters and the output radiation at the GRIN fiber’s 212 exit end 214 is approximately Gaussian”, clearly GRIN fibers of longer than 20 centimeters, such as the 0.5 to 2 meter long GRIN fibers of Kittrell et al (see column 7, lines 54-55 for length, column 13, lines 10-11 for GRIN fibers) must also inherently produce this intensity distribution, else the instant disclosure is not enabled. Hence the disclosure of Kittrell et al reads on the instant claims, regardless of whether or not Kittrell et al were aware of the intensity distribution produced by the fibers. Thus applicant’s arguments with respect to Kittrell et al are not convincing.

With regard to the Fischer et al reference, applicant asserts that Fischer et al describes a device for producing a homogenized output, citing the Abstract. The examiner must respectfully note that Fischer et al describes this “homogenized output” as “a spatially homogenized, radially symmetrical emission with a bell-shaped or Gaussian intensity distribution” (see Fischer et al column 2, lines 15-16). Fischer et al also goes on to note that it is known in the prior art that this output is produced when the fiber “has a plane-parallel end surface” (see column 2, lines 17-18). While Fischer et al also discloses an alternate method which does not require the plane parallel output surface. However, it is clear that Fischer et al places in possession of one of ordinary skill in the art, the manipulation of length, tip configuration, etc. to modify the output intensity

distribution to the desired configuration (see column 2, lines 39-55). It is clear that applicant cannot avoid the teachings of Fischer et al, wherein a tip piece is used, with the instant comprising-type claim structure. However, even if such were modified to remove the open ended limitations, the modified claims would still be read on by the teachings of Fisher et al, as the intensity exiting the fiber is considered to be “substantially Gaussian” since the mere use of an end piece produces a “Gaussian or super Gaussian” distribution (see column 3, line 67) and additionally because Fischer et al teaches that the prior art fibers produced the Gaussian distribution without the end piece. Thus these arguments are not convincing.

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “irrigating an area”; “an irrigation mechanism”; and “a second optical fiber” must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet”

pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Applicant argues that Kittrell et al does not disclose fibers with “dimensions to modify the electromagnetic radiation (e.g. laser light) to a modified radiation having a Gaussian, Bell shaped curve parabolic and/or Lorentzian or other such distributions.” The examiner firstly notes that the claims at bar recite “a graded index fiber having dimensions to modify the electromagnetic radiation to a modified electromagnetic radiation...” as set forth more clearly below, Kittrell et al teach a graded index fiber having the disclosed dimensions. Thus having the dimensions disclosed to produce the Gaussian output, as disclosed in the instant specification, the fiber of Kittrell et al must inherently produce the same Gaussian output. Thus these arguments are not convincing.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 2, 7-12, 15-17, 20-22, 24-27, 30, 33-38, 43 and 46-51 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Kittrell et al.

Kittrell et al teach the use of optical fibers which may be gradient refractive index type fibers (see column 13, lines 10-11) which can be one half to two meters long (see column 7, lines 54-57) and thus “having dimensions to modify the electromagnetic radiation...” as disclosed in the originally filed disclosure at page 8, paragraph 2, as it is longer than the 20 cm disclosed therein and with a core size of for example 133 microns (see column 22, lines 41-45), which is considered to be “about 150 to 1000 micrometers” as disclosed in the originally filed disclosure,

the paragraph bridging pages 6 and 7; and teaches the provision of irrigation, aka purge (see column 15, lines 45-48).

Claims 1-3, 6-11, 15-18, 20, 21, 23-28, 30, 33-36, 38, 40, 41, 43, 46, and 47 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Fischer et al.

Fischer et al teach the use of optical fibers which may be gradient refractive index type fibers (see column 3, lines 8-9) which can be 5 to 50 millimeters long (see column 3, lines 54-55) and thus “having dimensions to modify the electromagnetic radiation...” as disclosed in the originally filed disclosure at page 8, paragraph 2, as it is longer than the 20 cm disclosed therein and while there is no particular core size disclosed, the end piece (element 5, Figure 1) is illustrated as being of the same diameter as the fiber (see element 2, Figure 1) which is disclosed as 50 to 1000 microns (see column 3, lines 46-48), which is considered to be “about 150 to 1000 micrometers” as disclosed in the originally filed disclosure, further, it is clear that the quartz rod must be of the claimed dimensions, since radiation output thereby “can be a Gaussian distribution, a super Gaussian, a parabolic or also a ring shaped distribution” (see the paragraph bridging columns 3 and 4).

Claims 1-3, 6-12, 15-18, 20-28, 30, 33-38, 40, 41, 43, and 46-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fischer et al in combination with Kittrell et al. Fischer et al teaches a device and method as set forth above. Kittrell et al teach a device and method as set forth above. It would have been obvious to the artisan of ordinary skill to employ the GRIN fiber of Fischer in the catheter construction method of Kittrell et al, since Kittrell et al teach no particular GRIN fiber, or alternatively, to employ the fiber tip processing methods taught by Kittrell et al, in the device and method of Fischer et al, since providing an end piece is

equivalent to polishing the fiber end to use as the output, as taught by Kittrell et al, thus producing a device and method such as claimed.

Claims 5 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fischer et al in combination with Mann et al. Fischer et al teaches a device and method such as claimed except for the laser. Mann et al teach the equivalence of Ho:YAG and THC:YAG lasers for medical purposes. It would have been obvious to the artisan of ordinary skill to employ the laser of Mann et al in the device and method of Fischer et al, since these are equivalents, as taught by Mann et al, thus producing a device and method such as claimed.

Claims 5 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fischer et al in combination with Kittrell et al as applied to claims 1-3, 6-12, 15-18, 20-28, 30, 33-38, 40, 41, 43, and 46-51 above, and further in combination with Mann et al. Mann et al teach the equivalence of Ho:YAG and THC:YAG lasers for medical purposes. It would have been obvious to the artisan of ordinary skill to employ the laser of Mann et al in the combined device and method of Fischer et al and Kittrell et al, since these are equivalents, as taught by Mann et al, thus producing a device and method such as claimed.

Claims 4, 19, 29 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fischer et al in combination with Brauer. Fischer et al teaches a device and method such as claimed except for the laser. Brauer teaches the equivalence of Ho:YAG and Nd:YAG lasers emitting at 1.06 microns for medical purposes (see e.g. column 12, lines 41-47). It would have been obvious to the artisan of ordinary skill to employ the laser of Brauer in the device and method of Fischer et al, since these are equivalents, as taught by Brauer, thus producing a device and method such as claimed.



Claims 4, 19, 29 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fischer et al in combination with Kittrell et al as applied to claims 1-3, 6-12, 15-18, 20-28, 30, 33-38, 40, 41, 43, and 46-51 above, and further in combination with Brauer. Brauer teaches the equivalence of Ho:YAG and Nd:YAG lasers emitting at 1.06 microns for medical purposes (see e.g. column 12, lines 41-47). It would have been obvious to the artisan of ordinary skill to employ the laser of Brauer in the combined device and method of Fischer et al and Kittrell et al, since these are equivalents, as taught by Brauer, thus producing a device and method such as claimed.

Applicant's arguments filed November 24, 2008 have been fully considered but they are not persuasive. The arguments are not persuasive for the reasons set forth above.

All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR

1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to david shay whose telephone number is (571) 272-4773. The examiner can normally be reached on Tuesday through Friday from 6:30 a.m. to 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Johnson, can be reached on Monday through Friday from 7:00 a.m. to 3:30 p.m. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/david shay/

Primary Examiner, Art Unit 3769